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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,328	10/10/2000	Moriyoshi Ohara	JA999-169	4043
21254	7590	01/14/2005	EXAMINER	
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			HSU, JONI	
			ART UNIT	PAPER NUMBER
			2676	

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/684,328	Applicant(s) OHARA ET AL.	
	Examiner Joni Hsu	Art Unit 2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/24/04
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments filed September 24, 2004 have been fully considered but they are not persuasive.

2. With regard to Claim 1, Applicant argues that the claimed invention solves different problems than those solved by Yutaka and Peaslee, and hence claims fundamentally different methods with different apparatuses than Yutaka and Peaslee (page 11, lines 6-8). For example, the claimed merging operations of the claimed invention are different from the merging operations of Yutaka. That is, Yutaka defines "merging operations" as a composition of video frames from a sequence of control and drawing instructions (page 13, lines 1-3). In the claimed invention, on the other hand, "merging operations" are defined as a generation of drawing instructions to be transferred from the computer to the display apparatus by combining the effect of multiple drawing instructions that affect the same area in a short period of time on the frame buffer. In other words, Yutaka transfers the entire video frame for each video frame from the computer to the display apparatus, regardless of the result of the merging operations. The claimed invention, on the other hand, transfers only updated areas on the frame memory in the form of a drawing instruction, thereby reducing the amount of image data to be transferred from the computer to the display apparatus (page 13, lines 12-20). Applicant submits that Yutaka does not disclose or suggest a "scheduler for merging a plurality of said transfer data meeting a certain requirement" (page 14, lines 11-14). Yutaka does not include a device or method to

reduce the amount of data to be transferred over the communication medium (page 15, lines 4-5) or to reduce the effect of communication errors over a communication medium (page 15, lines 8-9). Peaslee does not teach a scheduler that generates a drawing instruction by combining the results of multiple drawings instructions which update the same area, in order to reduce the amount of data to be transmitted from a computer to a display apparatus, or translates drawing instructions to remove interdependency (page 15, line 10-page 16, line 3).

In reply, the Examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "merging operations" are defined as a generation of drawing instructions to be transferred from the computer to the display apparatus by combining the effect of multiple drawing instructions that affect the same area in a short period of time on the frame buffer; the apparatus transfers only updated areas on the frame memory in the form of a drawing instruction, thereby reducing the amount of image data to be transferred from the computer to the display apparatus; a device or method to reduce the amount of data to be transferred over the communication medium or reduce the effect of communication errors over a communication medium; the scheduler generates a drawing instruction by combining the results of multiple drawings instructions which update the same area, in order to reduce the amount of data to be transmitted from a computer to a display apparatus or translates drawing instructions to remove the interdependency) are not recited in the rejected Claim 1. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With regard to what is recited in Claim 1, Yutaka discloses a data transferring apparatus for transferring transfer packets each including one or more transfer data as objectives of transfer from a first apparatus (42, 43, 45, Figure 1) to a second apparatus (61), each transfer data including commands indicated processes against a preliminarily assigned area, the first apparatus including a scheduler for merging a plurality of the transfer data (43; Col. 6, lines 65-67; Col. 7, lines 1-13), and a communication controller (42) for generating transfer packets each including at least one of one or more transfer data whose amount is within a certain predetermined range (Col. 2, line 15) and one or more merged transfer data (Col.3, lines 1-8, 25-28), the communication controller transferring the generated transfer packets to the second apparatus (45; Col. 3, lines 12-14).

Yutaka, however, is silent as to whether the plurality of transfer data merged by the scheduler is merged by meeting a certain requirement. According to the disclosure of this application, the certain requirement that is met is that the scheduler merges the data in accordance with the mutual dependency of the instructions among themselves (Page 15, lines 13-18). However, Peaslee discloses a scheduler, which Peaslee calls a cogenerator (10, Figure 1), for merging a plurality of transfer data (Col. 3, lines 19-23). The cogenerator has a multiprocess scheduler (12, Figure 2; Col. 5, lines 5-12) that prevents the subsystems from using the same output at the same time, which means that the data must be merged in such a way that that they are not depending on the same output, which means that the data is merged in accordance with the mutual dependency of the instructions among themselves (Col. 5, lines 50-59).

Therefore, Yutaka and Peaslee disclose Claim 1 as it is recited.

3. With regard to Claim 2, Applicant argues that the specification discloses a light diffusing means including, among other things, a scheduler for judging whether an offset can be performed by merging an increment of data volume caused by a change of drawing commands. Applicant submits that, for somewhat similar reasons as those set forth above, Yutaka and Peaslee, either along or in combination, do not disclose or suggest any structure, equivalents thereof, or identity of function necessary for the claimed means for merging (page 16, line 11-page 17, line 5).

In reply, the Examiner disagrees. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a light diffusing means) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claim 2 is the same as Claim 1, except that Claim 2 does not have specific names for the scheduler and the communication controller, so Yutaka and Peaslee also disclose Claim 2. If both the drawing device section (61, Figure 1) and the packet buffer for setting a drawing instruction sequence, which is part of the main memory (43; Col. 7, lines 1-13) are taken to be the scheduler that is part of the means for merging (43, 61), and the image monitor device (65) is taken to be the second apparatus instead, then Yutaka discloses that the means for merging comprises a scheduler (43, 61) for judging whether an offset can be performed by merging an increment of data volume (Col. 3, lines 25-28) caused by a change of drawing commands (Col. 8, lines 54-62; Col. 9, lines 1-3).

4. With regard to Claim 7, Applicant argues that Yutaka and Peaslee also do not disclose or suggest the exemplary method as defined, for somewhat similar reasons as those set forth above with respect to independent Claims 1 and 2 (page 17, lines 6-10).

In reply, the Examiner disagrees. Claim 7 is the same as Claim 2, except that Claim 7 is for a method instead of an apparatus. Yutaka discloses both the data transferring method (Col. 2, lines 46-62) and its apparatus. The details of the method can be seen in Figure 11, steps 101-109, and are described in Col. 11, lines 31-67; Col. 12, lines 1-37. Peaslee also discloses both the apparatus and method. Figure 3 illustrates the method of how the multiprocess scheduler operates and Figure 4 illustrates the method of the task control functions. Figures 3 and 4 are described in Col. 5, line 48 to Col. 8, line 6. Therefore, Yutaka and Peaslee also disclose Claim 7.

5. With regard to Claim 11, Applicant argues that Yutaka and Peaslee also do not disclose or suggest the medium for mediating a program for transferring transfer packets according to the claimed invention as defined, for somewhat similar reasons as those set forth above with respect to independent Claims 1 and 2 (page 17, lines 6-10).

In reply, the Examiner disagrees. Claim 11 is the same as Claim 7, except that Claim 11 is for a medium for mediating a program to be executed on a computer. The method (101-109, Figure 11; Col. 11, lines 31-67; Col. 12) disclosed by Yutaka is a program that is executed on a computer (42, Figure 1; Col. 11, lines 31-34), so Yutaka discloses a medium for mediating this program to be executed on a computer. Peaslee discloses a programmable scheduler (Col. 1, lines 31-35), so the method (Figures 3 and 4; Col. 5, line 48- Col. 8, line 6) is a program.

Peaslee also suggests that the program is executed on a computer (Col. 1, lines 48-53), so Peaslee discloses a medium for mediating a program to be executed on a computer. Therefore, Yutaka and Peaslee also disclose Claim 11.

6. Applicant argues that dependent Claims 3-6, 8-10, and 12-14 also a patentable over Yutaka and Peaslee by virtue of their dependency from independent Claims 2, 7, and 11, respectively, as well as for the additional features recited therein (page 17, lines 22-24).

In reply, the Examiner disagrees. Claims 2, 7, and 11 are rejected for the reasons given above, and Claims 3-6, 8-10, and 12-14 are further rejected for the reasons given below.

7. Applicant argues that the new Claims 15-25 are allowable (page 18, lines 10-15).

In reply, the Examiner disagrees. Claims 15-25 are rejected for the reasons given below.

8. Applicant requested that the Examiner acknowledge receipt of and approve the formal drawings filed on October 10, 2000 (page 18, lines 17-18).

The Examiner acknowledges receipt of and approves the formal drawings filed on October 10, 2000.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US 5,664,163) in view of Peaslee (US 5,265,203).

12. With regard to Claim 1, Yutaka discloses a data transferring apparatus for transferring transfer packets each including one or more transfer data as objectives of transfer from a first apparatus (42, 43, 45, Figure 1) to a second apparatus (61), each transfer data including commands indicated processes against a preliminarily assigned area, the first apparatus including a scheduler for merging a plurality of the transfer data (43; Col. 6, lines 65-67; Col. 7, lines 1-13), and a communication controller (42) for generating transfer packets each including at least

one of one or more transfer data whose amount is within a certain predetermined range (Col. 2, line 15) and one or more merged transfer data (Col.3, lines 1-8, 25-28), the communication controller transferring the generated transfer packets to the second apparatus (45; Col. 3, lines 12-14).

Yutaka, however, is silent as to whether the plurality of transfer data merged by the scheduler is merged by meeting a certain requirement. According to the disclosure of this application, the certain requirement that is met is that the scheduler merges the data in accordance with the mutual dependency of the instructions among themselves (Page 15, lines 13-18). However, Peaslee discloses a scheduler, which Peaslee calls a cogenerator (10, Figure 1), for merging a plurality of transfer data (Col. 3, lines 19-23). The cogenerator has a multiprocess scheduler (12, Figure 2; Col. 5, lines 5-12) that prevents the subsystems from using the same output at the same time, which means that the data must be merged in such a way that that they are not depending on the same output, which means that the data is merged in accordance with the mutual dependency of the instructions among themselves (Col. 5, lines 50-59).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Yutaka so that the scheduler merges the data in accordance with the mutual dependency of the instructions among themselves as suggested by Peaslee because Peaslee suggests that the data that are dependent on each other cannot be transferred at the same time (Col. 5, lines 54-59).

13. With regard to Claim 2, Claim 2 is the same as Claim 1, except that Claim 2 does not

have specific names for the scheduler and the communication controller, so Yutaka and Peaslee also disclose Claim 2.

14. With regard to Claim 3, if both the drawing device section (61, Figure 1) and the packet buffer for setting a drawing instruction sequence, which is part of the main memory (43; Col. 7, lines 1-13) are taken to be the scheduler that is part of the means for merging (43, 61), and the image monitor device (65) is taken to be the second apparatus instead, then Yutaka discloses that the means for merging comprises a scheduler (43, 61) for judging whether an offset can be performed by merging an increment of data volume (Col. 3, lines 25-28) caused by a change of drawing commands (Col. 8, lines 54-62; Col. 9, lines 1-3).

15. With regard to Claim 4, Yutaka discloses that if the scheduler (43, 61, Figure 1) judges that the offset is possible, then the scheduler changes the drawing commands (Col. 8, lines 54-62; Col. 9, lines 1-3).

16. With regard to Claim 5, Yutaka discloses that the means for generating comprises a communication controller which generates the transfer packets which contain merged drawing commands which are more than a predetermined data volume in quantity (Col. 2, lines 32-33; Col. 4, lines 5-8).

17. With regard to Claim 6, Yutaka discloses that the first apparatus comprises a computer (Col. 1, lines 9-14) and the second apparatus comprises a display apparatus (65, Figure 1).

18. With regard to Claims 7-10, Claims 7-10 are the same as Claims 2-4 and 6, except that Claims 7-10 are for a method instead of an apparatus. Yutaka discloses both the data transferring method (Col. 2, lines 46-62) and its apparatus. The details of the method can be seen in Figure 11, steps 101-109, and are described in Col. 11, lines 31-67; Col. 12, lines 1-37. The details for the method for changing the drawing commands if the judging judges that the offset is possible, with regard to Claim 9, can be seen in Figure 4C; Col. 9, lines 38-51.

Peaslee also discloses both the apparatus and method. Figure 3 illustrates the method of how the multiprocess scheduler operates and Figure 4 illustrates the method of the task control functions. Figures 3 and 4 are described in Col. 5, line 48 to Col. 8, line 6.

19. With regard to Claims 11-14, Claims 11-14 are the same as Claims 7-10, except that Claims 11-14 are for a medium for mediating a program to be executed on a computer. The method (101-109, Figure 11; Col. 11, lines 31-67; Col. 12) disclosed by Yutaka is a program that is executed on a computer (42, Figure 1; Col. 11, lines 31-34), so Yutaka discloses a medium for mediating this program to be executed on a computer.

Peaslee discloses a programmable scheduler (Col. 1, lines 31-35), so the method (Figures 3 and 4; Col. 5, line 48- Col. 8, line 6) is a program. Peaslee also suggests that the program is executed on a computer (Col. 1, lines 48-53), so Peaslee discloses a medium for mediating a program to be executed on a computer.

20. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US 5,664,163) in view of Peaslee (US 5,265,203), further in view of Zhao (US006405267B1).

21. With regard to Claim 15, Yutaka and Peaslee are relied upon for the teachings as discussed above relative to Claim 1.

However, Yutaka and Peaslee do not teach that the scheduler generates a plurality of drawing instructions to be transferred from the first apparatus to the second apparatus by combining an effect of a plurality of drawing instructions which affect a same area in a predetermined short period of time on a frame buffer. However, Zhao describes generating a plurality of drawing instructions to be transferred from the first apparatus (CPU) to the second apparatus (graphics device) (Col. 1, lines 21-30) by ordering the drawing instructions (Col. 2, lines 43-59) by putting the drawing instructions into slots in the storage buffers, the slot selected based on portions of the address information associated with the data item. The data in the storage buffers is then provided to a command interpreter for further processing by the graphics device (Col. 3, lines 21-35). Therefore, Zhao discloses combining an effect of a plurality of drawing instructions which affect a same area. The storage buffers receive these drawing instructions from the FIFO, which outputs the drawing instructions at graphics device clock rate (Col. 3, lines 21-35). This means that the drawing instructions that are combined which affect a same area are effective for a predetermined short period of time on a frame buffer, the predetermined short period of time being in accordance with the graphics device clock rate.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee so that the scheduler generates a plurality

of drawing instructions to be transferred from the first apparatus to the second apparatus by combining an effect of a plurality of drawing instructions which affect a same area in a predetermined short period of time on a frame buffer as suggested by Zhao because Zhao suggests the advantage of increasing effect bus bandwidth (Col. 2, lines 43-59).

22. With regard to Claim 16, Claim 16 is similar in scope to Claim 15, and therefore is rejected under the same rationale.

23. With regard to Claim 17, Claim 17 is similar in scope to Claim 15, and therefore is rejected under the same rationale.

24. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US 5,664,163) in view of Peaslee (US 5,265,203), further in view of Pike (US 4,555,775).

25. With regard to Claim 18, Yutaka and Peaslee are relied upon for the teachings as discussed above relative to Claim 1.

However, Yutaka and Peaslee do not teach that the communication controller transfers only updated areas on a frame memory in a form of drawing commands to the second apparatus. However, Pike describes transferring a new layer on a frame memory in a form of drawing commands to the second apparatus (25, Figure 1) (Col. 11, line 38-Col. 12, line 11; Col. 3, lines 40-47). The new layer is only transferred if it is unique (Col. 12, lines 6-8), meaning that only

updated areas on a frame memory in a form of drawing commands are transferred to the second apparatus.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee so that the communication controller transfers only updated areas on a frame memory in a form of drawing commands to the second apparatus as suggested by Pike because Pike suggests the advantage of avoiding any unneeded processing (Col. 11, lines 21-25), which inherently making the processing more efficient.

26. With regard to Claim 19, Claim 19 is similar in scope to Claim 18, and therefore is rejected under the same rationale.

27. With regard to Claim 20, Claim 20 is similar in scope to Claim 18, and therefore is rejected under the same rationale.

28. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US 5,664,163) in view of Peaslee (US 5,265,203), further in view of Epard (US005241625A).

29. With regard to Claim 21, Yutaka and Peaslee are relied upon for the teachings as discussed above relative to Claim 2.

However, Yutaka and Peaslee do not teach that the first apparatus includes a first drawing engine and the second apparatus includes a second drawing engine. However, Epard describes

that the first apparatus (50, Figure 5A) includes a first drawing engine (55) and the second apparatus (60) includes a second drawing engine (61) (Col. 48, lines 26-57).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee to include a first drawing engine and the second apparatus includes a second drawing engine as suggested by Epard because Epard suggests that in order for the first apparatus to transfer image data to the second apparatus, the first apparatus must have a drawing engine to first process the image data. In order for the second apparatus to display this image data, it must also have a drawing engine (Col. 3, lines 5-43; Col. 48, lines 26-57).

30. With regard to Claim 22, Yutaka and Peaslee do not teach that the first apparatus and the second apparatus include redundant drawing engines. However, Epard describes that the first apparatus (50, Figure 5A) and the second apparatus (60) display the same information (Col. 3, lines 5-43). Therefore, Epard describes that the first apparatus and the second apparatus include redundant drawing engines (55, 61) because both drawing engines process the same information.

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee so that the first apparatus and the second apparatus include redundant drawing engines as suggested by Epard because Epard suggests that the second apparatus is to display the same image data as that of the first apparatus. Therefore, the first apparatus and the second apparatus must include redundant drawing engines (Col. 3, lines 5-43).

31. With regard to Claim 23, Yutaka and Peaslee do not teach that the first apparatus comprises a computer including a first drawing engine, and wherein the second apparatus comprises a display apparatus including a second drawing engine. However, Epard describes that the first apparatus (50, Figure 5A) comprises a computer including a first drawing engine (55), and wherein the second apparatus (60) comprises a display apparatus (65) including a second drawing engine (61) (Col. 3, lines 5-44; Col. 48, lines 26-57).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee so that the first apparatus comprises a computer including a first drawing engine, and wherein the second apparatus comprises a display apparatus including a second drawing engine as suggested by Epard because Epard suggests that the first apparatus must comprise a computer in order to process the image data, and the second apparatus must comprise a display apparatus in order to display the information (Col. 3, lines 5-44; Col. 48, lines 26-57).

32. With regard to Claim 24, Yutaka and Peaslee do not teach that the first drawing engine and the second drawing engine each include a dedicated frame memory unit. However, Epard describes the first drawing engine (55, Figure 5A) and the second drawing engine (61) each include a dedicated frame memory unit (57, 65; Col. 48, lines 26-57).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee so that the first drawing engine and the second drawing engine each include a dedicated frame memory unit as suggested by Epard because Epard suggests that both the first drawing engine and the second drawing engine need a

dedicated frame memory unit to store image data that is processed by the drawing engines (Col. 48, lines 26-57).

33. Claims 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka (US 5,664,163) in view of Peaslee (US 5,265,203), further in view of Epard (US005241625A0), further in view of Nitta (US006392619B1).

Yutaka, Peaslee, and Epard are relied upon for the teachings as discussed above relative to Claim 21. Epard describes that the first drawing engine and the second drawing engine generate identical images, as discussed in the rejection for Claim 22.

However, Yutaka, Peaslee, and Epard do not teach that the first drawing engine and the second drawing engine generate identical images including a different timing due to a data transfer delay from the first apparatus to the second apparatus. However, Nitta describes the data transfer of images for which the same data is continuously transferred (Col. 9, lines 7-10), meaning that the first apparatus and the second apparatus generate identical images. Nitta describes a different timing due to a data transfer delay from the first apparatus to the second apparatus (Col. 10, lines 59-67).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the devices of Yutaka and Peaslee so that the first drawing engine and the second drawing engine generate identical images including a different timing due to a data transfer delay from the first apparatus to the second apparatus as suggested by Nitta because Nitta suggests that there is a data transfer delay from the first apparatus to the second apparatus,

so the data transfer delay must be accounted for with a different timing in order to have correct timing (Col. 10, lines 59-67).

34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vegesna (US 5,640,588) teaches a scheduler (2, Figure 18) for merging a plurality of transfer data in accordance with the mutual dependency of the instructions among themselves (Col. 3, lines 12-37; Col. 23, lines 6-20). Vegesna also teaches that when there are data dependencies between instructions, they cannot be issued simultaneously (Col. 33, lines 38-40), and Vegesna suggests the advantage of achieving multiple launches and executions of the instructions by merging the data in accordance with the mutual dependency of the instructions among themselves (Col. 3, lines 12-37). Vegesna discloses both the apparatus and method (Col. 1, line 12). The details of the method for merging a plurality of transfer data in accordance with the mutual dependency of the instructions among themselves are described in Col. 26, lines 4-62.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 703-305-4418. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH



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